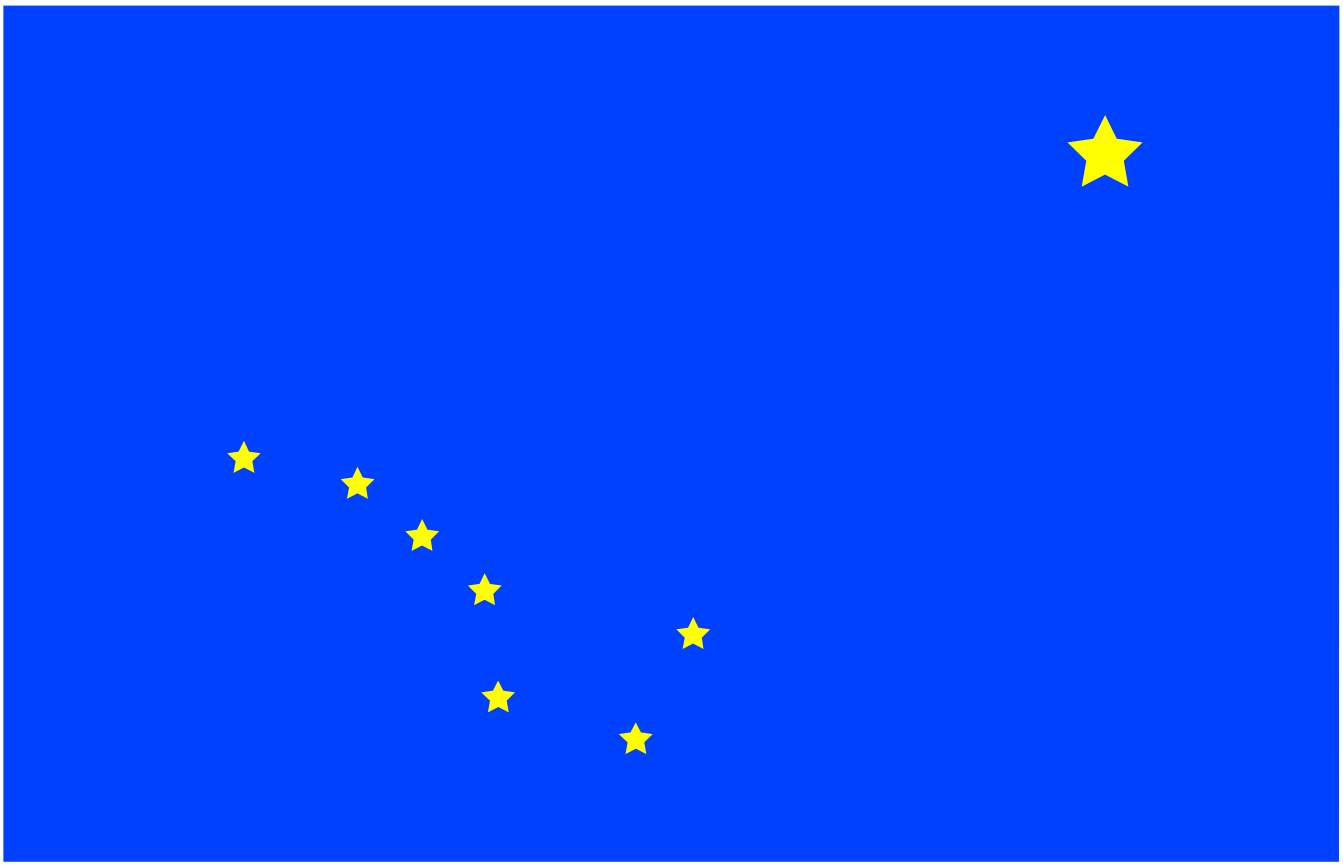
Haines Pipeline Installation Action Plan FY 2005



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FY2005 as of Sept 2004

Haines Pipeline Installation Action Plan

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Statement of Purpose

The purpose of the Installation Action Plan is to outline the total multi-year restoration program for an installation. The plan will define Installation Restoration Program requirements and propose a comprehensive approach and associated costs to conduct future investigations and remedial actions at each Installation Restoration Program site at the installation.

In an effort to coordinate planning information between the Installation Restoration Program manager major army commands, installations, executing agencies, regulatory agencies, and the public, an Installation Action Plan has been completed for Haines Pipeline. The Installation Action Plan is used to track requirements, schedules, and budgets for all major Army installation restoration programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is therefore subject to change. Haines Pipeline in expected to be RIP in FY07.

Contributors to this Installation Action Plan:

ADEC

Engineering & Environment, Inc.

U.S. Army Environment Center

U.S. Army Garrison, Alaska

U.S. Environment Protection Agency

Acronyms & Abbreviations

ADEC	Alaska Department of Environmental Conservation
AEDB-R	Army Environmental Database- Restoration
AEHA	used in site description HNS-03
AST	Aboveground Storage Tank
bbl	barrel
BLM	Bureau of Land Management
BTEX	Benzene, Toluene, Ethylbenzene and Xylene
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CLOSES	Cleanup Operations and Site Exit Strategy
CTC	Cost-to-Complete
cy	cubic yards
DoD	Department of Defense
EHEA	used in the Contamination Assessment
EPA	(United States) Environmental Protection Agency
ER,A	Environmental Restoration, Army (formerly called DERA)
FS	Feasibility Study
ft	foot
FUDS	Formerly Used Defense Sites
FY	Fiscal Year
HNS	Haines Pipeline
HVE	High-Vacuum Extraction
IAP	Installation Action Plan
IRA	Interim Remedial Action
IRP	Installation Restoration Program
K	$1,000
kg	kilograms
LTM	Long-Term Monitoring
mg	miligrams
MMRP	Military Munition Response Program
NE	Not Evaluated
NFA	No Further Action
NPL	National Priorities List
PA	Preliminary Assessment
PBC	Performance Based Contracting
PCB	polychlorinated biphenyl
POL	Petroleum, Oil & Lubricants
POM	Program Objective Memorandum (budget)
PY	prior year
RA	Remedial Action
RAO	Remedial Action Objectives
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RC	Response Complete
RD	Remedial Design
REM	Removal
RI	Remedial Investigation
RIP	Remedy in Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection

Acronyms & Abbreviations

SW	surface water
TAPP	Technical Assistance for Public Participation
TFT	Tok Fuel Terminal
ug/l	microgram per liter
USAEC	United States Army Environmental Center (formerly called USATHMA)
USAG-AK	United States Army Garrison, Alaska
USARPAC	United States Army, Pacific Command
UST	Underground Storage Tank

Summary

STATUS:	Haines Pipeline is not on the NPL. All active sites are expected to be included in a PBC in FY05.
# OF AEDB-R SITES:	22
ACTIVE AEDB-R SITES:	4 - receiving funding
RESPONSE COMPLETE:	18
MMRP SITES:	0
DIFFERENT SITE TYPES:	2 Fire Crash Training Area 1 Storage Area 14 Above Ground Storage Tanks 4 POL Lines 1 Spill Site Area
CONTAMINANTS OF CONCERN:	POL, Metals, Solvents
MEDIA OF CONCERN:	Soil, Groundwater
COMPLETED REM/IRA/RA:	RA at HNS-07, 09
FY05 IRP PHASES:	RI at 3 sites RA at 2 sites
PROJECTED IRP PHASES:	RA at 3 sites RA(O) at 3 sites LTM at 3 sites
IDENTIFIED POSSIBLE REM/ IRA/RA:	RA at HNS-01, 02, 03, 04
DURATION:	Year of IRP Inception 1991 Year of RA Completion 2007 Year or IRP Completion 2034

Installation Information

SITE DESCRIPTION:

Haines-Fairbanks Pipeline runs along Haines (Alaska), the Border (British Columbia), Junction (Yukon), Donjek (Yukon), and Tok (Alaska). The pipeline was built to supply fuel to military installations in Alaska. The pipeline consisted of an eight inch multi-product line with six pumping (Tok, Haines, Sears Creek) stations that are FUDS sites. A significant portion of the line was installed above ground. The pipeline was decommissioned in 1972, with a majority of the pipe removed in 1990-1991. Haines Terminal was closed in 1991

IRP EXECUTING AGENCIES:

IRP Executor: U.S. Army Alaska, Environmental Division

REGULATORY PARTICIPATION:

Federal: U.S. Environmental Protection Agency, Region X
State: Alaska Department of Environmental Conservation, South-Eastern Region

REGULATORY STATUS:

Haines and Tok Terminal are listed on the CERCLIS

MAJOR CHANGES TO IAP FROM PREVIOUS YEAR:

- All active sites are expected to be included in a PBC in FY05.
- The Manfold Bldg was removed thru the BDDR Program in 2004. This will allow fur further investigation of the contamination in that area. Free product has been discovered in recent sampling events.

Installation Description

The Haines-Fairbanks pipeline was built in the mid-1950s to replace the western portion of the Canol pipeline. The Canol pipeline was built during the 1940s to carry oil from an oil field to a refinery in Whitehorse, British Columbia.

Independent contractors from Canada and the United States completed the Haines-Fairbanks pipeline in October 1955. The pipeline was construsted from eight-inch diameter steel pipe. Soon after completion, the U.S. military took possession of the pipeline. Fuel was shipped to the POL terminal in Haines, then transported 626 miles to Fairbanks via the pipeline.

The pipeline operated for 17 years. The operation ended in 1971, and the pipeline was purged. In 1982, the Canadian Government took control of the pipeline that was located in Canada. The majority of the pipeline was removed from the right-of-way in 1991.

Several pump stations were built along the pipeline. They were placed at the following locations: Haines (AK), the Border (British Columbia), Junction (Yukon), Donjek (Yukon) and Tok (AK). When more throughput was needed, six more pumps were built in Blanchard River, Destruction Bay and Beaver Creek, Lakeview, Sears Creek and Timber. Lakeview and Timber stations have been patented by BLM to the State of Alaska. Any further action on these sites will be conducted under the FUDS program.

During its 17 years of operation, there were numerous leaks along the pipeline. Most of the fuel leaks were the result of error in the initial setup.

In 1990, the City of Haines requested that the Alaska Department of Environmental Conservation (ADEC) conduct an investigation of the facility. In May 1990, ADEC requested the EPA list Haines Fuel Terminal on the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). A preliminary assessment was finalized in February 1991, and the site investigation was completed in January 1996. The U.S. Army, Alaska conducted investigation of pathways for off-site migration identified in the 1996 site investigation, and removed a fire burn pit, outside the Haines Fuel Terminal fence line, known to contribute to surface water contamination. Remedial actions are in place at the Fuel Terminal

In November 1996, a Restoration Advisory Board (RAB) information meeting was conducted, and applications were distributed to approximately 600 post office box holders in Haines. A RAB selection panel was convened, consisting of several active members of the Haines community identified during community interviews held in June 1996. The selection panel forwarded 20 nominations, representing a diverse group of interest in the community. The Haines RAB meetings cover on-going and projected activities at the facility, as well as review of documents and setting priorities and meet twice a year.

Tok Terminal has undergone significant changes in recent years. The buildings and tanks were almost completly removed during FY03. The RI was completed in FY04. Additional work will be completed under the PBC that is expected to be awarded in FY05.

Contamination Assessment

In 1989, Haines community members, concerned with reports of waste disposal practices at the Haines Fuel Terminal, petitioned the Environmental Protection Agency (EPA) and the Alaska Department of Environmental Conservation (ADEC) to conduct an investigation of the site. The preliminary assessment, conducted in May 1990, identified leaking underground storage tanks, leaking transformers, three fire burn pits used for waste fuels and solvent disposal, and potential past use of dioxin-containing herbicides. The site was listed on the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) in May 1990.

In 1992, a site investigation was initiated and identified the presence of petroleum contaminants in soil, subsurface soils, surface water and groundwater. The report, finalized in 1993, lead to a follow-on investigation to determine if off-site migration was occurring. This second phase to the site investigation to confirm off-site migration of petroleum contaminants was completed and reported in January 1996.

In October 1996, a groundwater control system, using oxygen-releasing compounds, was installed as a treatability study. Its goal was to determine if enhanced bioremediation could be used to slow or stop off-site migration of petroleum products. Results were inconclusive. During this same time frame, the Lutak fire burn pit, a major source of off-site surface water contamination, was excavated and the soil stockpiled for later thermal remediation.

In October 1997, a second treatability study was initiated with the installation of a High-Vacuum Extraction (HVE) system. The system is designed to remove and treat fuel-related compounds from groundwater and subsurface soil in the off-site migrating area. The system was deactivated Dec 2000 due to inefficiency.

In October 2001, an air sparging treatability study was implemented to control volatile contaminant migration and meet the goal objective, which is to minimize potential off-site migration.

In November 1996, a Restoration Advisory Board (RAB) informational meeting was conducted, and applications were distributed to the approximately 600 post office box holders in Haines. A RAB selection panel was convened, consisting of several active members of the Haines community identified during community interviews held in June 1996. The selection panel forwarded 20 nominations, representing a diverse group of interests in the community. The Haines RAB establishment meeting was held the week of 7 April 1997.

Tok Fuel Terminal (TFT) was a pumping and storage station for the Haines to Fairbanks pipeline operated by the Department of Defense (DOD). The terminal was used to regulate the pipeline. The facility was taken out of service in 1973, and was leased by GSA to the Bureau of Land Management (BLM) in 1979. The fuel terminal had a fuel storage capacity of approximately 275,000 barrels in 133 bulk fuel storage tanks. The truck fill rack was used to fill tanker trucks with diesel fuel and motor gasoline. The housing and support facilities included the manifold building, mainline pump building, a garage and shop used to maintain equipment, and a power generator facility.

In February 2002, a RI at TFT was initiated to investigate and evaluate subsurface contamination. The purpose of the study was to determine the extent of soil and groundwater contamination on the terminal.

Investigation of the other sites comprising the Haines Pipeline and Sears Creek, was initiated through USAPAC EHEA. A preliminary assessment level survey was conducted at each of these sites and identified various contaminants including volatile organic compounds, residual petroleum compounds and some pesticides.

Previous Studies

	Title	AUTHOR	DATE
1	Products Pipeline, Haines to Fairbanks, Alaska, Operating Manual	USACE-AK	May-55
2	Design, Construction and Operation	CRREL	February-77
3	Pollution Spill Control Plans Petroleum Division Terminal, Haines, Alaska	USACE-AK, Office of the District Engineer	June-83
4	Haines Landfill, Workplan and A-E Quality Control Plan, Haines, Alaska	Ecology and Environment, Inc.	September-89
5	U.S. Army Tank Farm and POL Dock Facility Lutak Inlet	US Fish and Wildlife Service	March-90
6	Site Safety and Health Plan, Site Investigation, Haines Fuel Terminal, Haines, Alaska	Harding Lawson Associates	November-92
7	Work Plan, Fuel Terminal Site Investigation, Haines, Alaska	Harding Lawson Associates	November-92
8	Final Report, Fuel Terminal Site Investigation, Haines, Alaska	Harding Lawson Associates	April-93
9	Final Report, Fuel Terminal Site Investigation, Haines, Alaska	Harding Lawson Associates	June-93
10	Groundwater Monitoring, Spring 1994, Fuel Terminal, Haines, Alaska	USACE-AK, Geotechnical Branch, Materials and Instrumentation Section	August-94
11	Summary of Non-Nature Activities in Klukshu Reserve Area	Champagne and Aishihik First Nations	September-94
12	Remedial Investigation/Risk Assessment, Data Quality Objectives and Conceptual Site Models, Haines Fuel Terminal, Haines, Alaska	Harding Lawson Associates	October-94
13	Work Plan Addendum, Haines Fuel Terminal Investigation, Haines, Alaska	Harding Lawson Associates	June-95
14	Site Safety and Health Plan, Site Investigation and Monitoring, Haines Fuel Terminal, Haines, Alaska	Harding Lawson Associates	June-95
15	Toxic and Hazardous Materials Survey, Haines Fuel Terminal Investigation, Haines, Alaska	Harding Lawson Associates	July-95
16	Preliminary Environmental Assessment, Haines-Fairbanks Pipeline	UMA Engineering Ltd.	August-95
17	Chemical Data Report Haines Fuel Terminal Landfill Groundwater Monitoring, Spring 1995	Harding Lawson Associates	October-95
18	Chemical Data Report, Haines Fuel Terminal Existing Wells, Groundwater Monitoring, Spring 1995, Haines, Alaska	Harding Lawson Associates	October-95
19	Site Investigation Report, Haines Fuel Terminal, Haines, Alaska	Harding Lawson Associates	January-96
20	PCB Survey, Health and Safety Plan, Haines Fuel Terminal, Haines, Alaska	CH2M Hill	May-96
21	Haines Fuel Terminal and Tank Farm, Public Meeting, Transcript of Proceedings, May 20, 1996	Jacobs Engineering Group, Inc.	May-96
22	Soil Vapor/Groundwater Survey Work Plan Haines Fuel Terminal	Total Environmental Restoration Contract	May-96
23	Conceptual Site Model	Radian International LLC	June-96
24	Conceptual Site Model		June-96

Previous Studies

	Title	AUTHOR	DATE
25	Summary Report, Haines Fuel Terminal and Tank Farm, Public Meeting, May 20, 1996, Haines, Alaska	Ecology and Environment, Inc.	July-96
26	Draft, Engineering Evaluation/Cost Analysis, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	July-96
27	Final, Community Relations Plan, Haines Fuel Terminal, Alaska	Jacobs Engineering Group, Inc.	August-96
28	Background Information for Preliminary Design Meeting, Haines Fuel Terminal, Haines, Alaska	Radian International LLC	August-96
29	Site Safety and Health Plan, Interim Working Plan, Haines Fuel Terminal, Alaska, Final, Revision 2	Jacobs Engineering Group, Inc.	October-96
30	Haines Fuel Terminal and Tank Farm Documents Public Information	Jacobs Engineering Group, Inc.	October-96
31	Workplan - Lutak Burn Pit Removal Action, Goo Pit Capping, and Control Measures Treatment System Construction, Haines Fuel Terminal, Haines, Alaska, Final, Revision 0	Jacobs Engineering Group, Inc.	October-96
32	Final, Tier 1 Ecological Risk Assessment, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	November-96
33	Haines Fuel Terminal Project, Public Meeting, Transcript of Proceedings, November 21, 1996, Haines High School Band Room, Haines, Alaska		November-96
34	Geophysical Survey, Haines Fuel Terminal, Haines, Alaska, Final	Radian International LLC	November-96
35	Decision Document for a Soil Removal and Treatment, Lutak Burn Pit, Haines Fuel Terminal, Haines, Alaska	Directorate of Public Works, Environmental Compliance and Restoration Branch	January-97
36	Draft, Meeting Summary Report, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	February-97
37	Geophysical Survey of the Goo Pit Area, Haines Fuel Terminal, Haines, Alaska, Draft Letter Report: March 11, 1997	CRREL	March-97
38	Draft, ORC Treatability Workplan, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	April-97
39	Haines Fuel Terminal and Tank Farm Public Meeting- Transcript of Proceedings	U.S. Army Alaska	April-97
40	PCB Survey Report, Delivery Order 7, Haines and Seward, Alaska	CH2M Hill	June-97
41	30% Design, Tank 100 High-Vacuum Extraction (HVE) Treatability Study, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	June-97
42	Jacobs Engineering Group Subcontract between Environment Consultants, and Jacobs Engineering Group Inc. in support of: U.S. Army Corps of Engineers, Alaska District, Total Environmental Restoration Contract for Marine Study at Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	July-97
43	Draft, April 30, 1997, Restoration Advisory Board Meeting Summary Report, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	July-97
44	Haines Fuel Terminal, Geophysical Investigation of a Suspected Landfill Area, Interim Draft Report	CRREL	July-97
45	Final Workplan for Multiple Studies, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	August-97

Previous Studies

	Title	AUTHOR	DATE
46	90% Design, Tank 100 High-Vacuum Extraction (HVE) Treatability Study, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	August-97
47	Final Summary Report Lutak Burn Pit Removal Action, Goo Pit Capping, and Control Measures Treatment System Construction	Radian International LLC	October-97
48	Final, Construction Workplan, Tank 100 High-Vacuum Extraction (HVE) System, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	October-97
49	Draft, Conceptual Site Model, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	January-98
50	Preliminary Aquifer Characterization and Viability Recommendations, Haines Fuel Terminal, Haines, Alaska, Draft Letter Report	CRREL	February-98
51	Draft, Chilkoot Village, Site Assessment Report	NSWC/EG&G/Portage	February-98
52	Draft, Summary Report, High-Vacuum Extraction (HVE) System Construction and Perimeter Fence Repair, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	March-98
53	Preliminary Aquifer Characterization and Viability Recommendations, Haines Fuel Terminal, Haines, Alaska, Interim Draft Report	CRREL	March-98
54	Tank 100 High-Vacuum Extraction Treatability Study, Performance Evaluation Report, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	April-98
55	Focused Feasibility Study, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	April-98
56	Tank 104 Oxygen Releasing Compound (ORC) Slurry Treatability Study Report	Jacobs Engineering Group, Inc.	April-98
57	Final ORC Treatability Study Midpoint Evaluation Report	Jacobs Engineering Group, Inc.	April-98
58	Cultural Resource Survey of the Haines Fuel Terminal, Haines, Alaska: Final Report on the Archaeology of Tanani Point	Northern Land Use Research, Inc.	April-98
59	Final, Tank 100, Baseline Study, Summary Report, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	April-98
60	Final Tank 100 Baseline Study Summary Report	Jacobs Engineering Group, Inc.	April-98
61	Information Repository Tank 100 High Vacuum Extraction Treatability Study Performance Evaluation Report Haines Fuel Terminal Haines, Alaska	Jacobs Engineering Group, Inc.	April-98
62	Final, Soil Classification Study, Summary Report, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	April-98
63	Final, ORC Treatability Study, Midpoint Evaluation Report, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	April-98
64	Final, Tank 104, Oxygen Releasing Compound (ORC) Slurry Treatability Study Report, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	April-98
65	Draft, Alternate Cleanup Level Development Workplan, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	May-98
66	PCB Annual Document Logs, 1997, Haines Fuel Terminal, Haines, Alaska	CH2M Hill	June-98
67	Final, Preliminary Evaluation of Remedial Alternatives, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	August-98
68	Final Site Assessment Workplan, Haines Fuel Terminal "Goo Pit", Haines, Alaska	EMCON Alaska, Inc.	September-98

Previous Studies

	Title	AUTHOR	DATE
69	Draft, ORC Treatability Study, Performance Evaluation Report, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	September-98
70	Final, Work Plan for Tank 107, Haines Fuel Terminal, Haines, Alaska	ENSR	December-98
71	Final, Haines Fuel Terminal, Marine Environmental Impact Evaluation	Environment Consultants	December-98
72	Risk Assessment Workplan, Haines Fuel Terminal, Haines, Alaska, Final	Jacobs Engineering Group, Inc.	December-98
73	Environmental Assessment of Department of Defense Activities on Native Resources and Lands in Southeast Alaska	P.V.T. Consulting, LLC	January-99
74	Detecting and Mapping Petroleum-Contaminated Soils with DC Resistivity	CRREL	January-99
75	Groundwater Flow Measurements at the Haines Fuel Terminal, Haines, Alaska, for the Period December 1997 to November 1998: A Preliminary Data Report, Interim Draft Report	CRREL	February-99
76	Sentry Wells, October 1998, Haines Fuel Terminal, Alaska	USACE-AK, Geotechnical Branch, Materials and Instrumentation Section	April-99
77	Landfill Wells, Groundwater Monitoring, October 1998, Haines Fuel Terminal, Alaska	USACE-AK, Geotechnical Branch, Materials and Instrumentation Section	April-99
78	Using DC Resistivity to Find and Map Petroleum-Contaminated Soils at the Haines Fuel Terminal, Haines, Alaska, Final Interim Report	CRREL	April-99
79	Draft Risk Assessment Report Volume 2 Appendices J-K, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	May-99
80	Draft, Risk Assessment Report, Volume 1, Text and Appendices A - I, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	May-99
81	Final, Haines Fuel Terminal, Tank 107, Release Investigation Report, Haines, Alaska	ENSR	May-99
82	PCB Annual Document Logs, 1998, Haines Fuel Terminal, Haines, Alaska	CH2M Hill	June-99
83	Technical Memorandum, Tank 100 High-Vacuum Extraction System, Manifold Building Expansion, Haines Fuel Terminal, Haines, Alaska, Final	Jacobs Engineering Group, Inc.	July-99
84	Geologic, Geophysical and Hydrogeologic Investigations of the Haines Fuel Terminal, Haines, Alaska	CRREL	August-99
85	Technical Memorandum Pipeline Removal and Abandonment	Jacobs Engineering Group, Inc.	August-99
86	May 1999, Landfill Groundwater Monitoring, Haines Fuel Terminal, Alaska	USACE-AK, Engineering Support Branch, Materials and Instrumentation Section	September-99
87	Appendix C, Site Safety and Health Plan Addendum, 1999 Haines Fuel Terminal, POL Pipeline Removal & HVE System Modification, Haines, Alaska, Final	Jacobs Engineering Group, Inc.	September-99
88	Technical Memorandum, Soil Stockpile Decommissioning, Haines Fuel Terminal, Haines, Alaska, Final	Jacobs Engineering Group, Inc.	October-99

Previous Studies

	Title	AUTHOR	DATE
89	Final Corrective Action Report, Haines Fuel Terminal "Goo Pit", Haines, Alaska	EMCON Alaska, Inc.	October-99
90	Technical Memorandum Soil Stockpile Decommissioning Haines Fuel Terminal Haines, Alaska	Jacobs Engineering Group, Inc.	October-99
91	Central Council Tlingit and Haida Indian Tribes of Alaska, Tanani Point Environmental Monitoring Project	Carson Dorn, Inc.	October-99
92	Re: July 1999 Haines Groundwater Monitoring Report - Tank 107	ENSR	December-99
93	Offshore Seismic Reflection Profiling Near the Haines Fuel Terminal, Alaska	CRREL	December-99
94	Technical Memorandum Tank 100 High-Vacuum Extraction System Expansion Summary Report Draft	Jacobs Engineering Group, Inc.	January-00
95	November 1999, Groundwater, Surface Water, and Sediment Sampling Results, Haines Fuel Terminal, Alaska	USACE-AK, Engineering Services Branch, Materials and Instrumentation Section	March-00
96	Technical Memorandum, Pipeline and Soil Stockpile Removal Action, Haines Fuel Terminal, Haines, Alaska, Final	Jacobs Engineering Group, Inc.	March-00
97	Draft, Tanani Subsistence for Central Council Tlingit and Haida Indian Tribes of Alaska	Northern Land Use Research, Inc.	March-00
98	A DC-Resistivity and Ground-Penetrating Radar Investigation near Tank 100, Haines Fuel Terminal, Alaska	CRREL	March-00
99	Installation Action Plan for Haines, Alaska	U.S. Army Alaska	March-00
100	Tanani Subsistence	Northern Land Use Research, Inc.	March-00
101	Briefing Document for Meeting Between United States Army and Chilkoot Indian Association, March 15, 2000	U.S. Army	March-00
102	Technical Memorandum Tank 100 High-Vacuum Extraction System Expansion Summary Report	Radian International LLC	April-00
103	Technical Memorandum, Tank 100 High-Vacuum Extraction System, Expansion Summary Report, Haines Fuel Terminal, Haines, Alaska, Final	Jacobs Engineering Group, Inc.	April-00
104	X-Ray Diffraction Analysis of Marine Mud Aquitard, Haines Fuel Terminal, Haines, Alaska	CRREL	June-00
105	Seismic Profile Evidence for Offshore Flow Pathways near Tank 100, Haines Fuel Terminal, Haines, Alaska, Interim Report	CRREL	July-00
106	Bedrock Resistivity Investigations at the Haines Fuel Terminal, Alaska, Letter Report	CRREL	July-00
107	Chemical Data Report, Spring 2000 Groundwater, Surface Water, and Sediment Study, Haines Fuel Terminal, Haines, Alaska	USACE-AK, Materials Section, Engineering Services Branch	September-00
108	Offsite Migration Routes Interpreted from a DC Resistivity Model, Haines Fuel Terminal, Alaska	CRREL	September-00
109	Chemical Data Report Haines Fuel Terminal Monitoring, Fall 2000	USACE-AK, Materials Section, Engineering Services Branch	January-01
110	Final Site Safety and Health Plan Addendum Haines Fuel Terminal Demolition 2001 Field Activities	Jacobs Engineering Group, Inc.	April-01
111	Archaeological Monitoring of Soil Sample Trenches at the Haines Fuel Terminal Tanks 100 & 107	Northern Land Use Research, Inc.	May-01

Previous Studies

	Title	AUTHOR	DATE
112	Release Investigation Plan Tank 100, Haines Fuel Terminal, Haines, Alaska	CH2M Hill	June-01
113	Quality Assurance Program Plan Haines Fuel Terminal	CH2M Hill	July-01
114	Chemical Data Report Haines Fuel Terminal Monitoring, Spring 2001	U.S. Army Corps of Engineers	September-01
115	Asbestos Survey Report Various Buildings Haines Fuel Terminal, Haines, Alaska	U.S. Army Corps of Engineers	September-01
116	Permeable Sparging Trench Treatability Study Work Plan Haines Fuel Terminal, Haines, Alaska	CH2M Hill	October-01
117	Tank 100 Release Investigation Haines Fuel Terminal, Haines, Alaska	CH2M Hill	November-01
118	Draft Startup Report: Treatability Study Startup Report Haines Fuel Terminal	CH2M Hill	December-01
119	Haines Fuel Terminal Monitoring Well Network Status Report, Haines, Alaska	ENSR	December-01
120	Haines Fuel Terminal 2001 Hazardous Waste Report	Emerald Services, Inc	December-01
121	2001 Sampling Event Summary Report Tank 100/HVE System Tank 107, Haines Fuel Terminal, Haines, Alaska	Jacobs Engineering Group, Inc.	January-02
122	Final Remedial Investigation Tank 107, Haines Fuel Terminal	ENSR	January-02
123	Treatability Study Startup Report Haines Fuel Terminal	CH2M Hill	March-02
124	Final Revised Haines Fuel Terminal October 2001 Chemical Data Report	ENSR	May-02
125	Analytical results for submitted samples	ANALYTICA	June-02
126	Treatability Study Monitoring Haines Fuel Terminal Haines, Alaska	CH2M Hill	July-02
127	Haines Fuel Terminal Well Decommissioning Technical Memorandum	ENSR	August-02
128	Paleochannel Investigation Work Plan Haines Fuel Terminal Haines, Alaska	CH2M Hill	October-02
129	Permeable Sparging Trench Treatability Study Work Plan Haines Fuel Terminal, Haines, Alaska	CH2M Hill	December-02
130	Final Site Safety and Health Plan for Haines Fuel Terminal Tanani Point Burn Pit Sit Investigation, Soil Excavation, Assessment, and Disposal Haines, Alaska	BNC International, Inc.	January-03
131	Haines Fuel Terminal Soil Gas Screening Survey, Work Plan	CH2M Hill	January-03
132	Tanani Point Burn Pit Site Investigation, Soil Excavation Assessment & Disposal	BNCI, Inc.	February-03
133	Paleochannel Investigation Haines Fuel Terminal Haines, Alaska	CH2M Hill	February-03
134	Quality Control Plan	CH2M Hill	March-03
135	Work Plan for Permeable Sparging Trench System Augmentation	CH2M Hill	April-03
136	Draft Final CLOSES Evaluation, HFT	CH2M Hill	June-03
137	Preliminary Summary of Groundwater Flow Derived From the CRREL Flow Probes	CRREL, USACE	June-03
138	Bollard Installation and Depth to Water Measurements	COE	September-03
139	Hazardous Materials Condition Survey Haines Pumping Station FINAL REPORT	Bethel Services, Inc. & Environmental Health Services, Inc.	September-03
140	Tech Memo, Oil Removal, Haines Fuel Terminal, Haines	CH2M Hill	October-03

Previous Studies

	Title	AUTHOR	DATE
141	Final Tok Fuel Terminal Preliminary Remedial Investigation Report, Tok AK	COE	December-03
142	Draft Annual Monitoring Report, HFT	CH2M Hill	January-04
143	Draft OM&M HFT	CH2M Hill	January-04
144	2003 COELT Deliverables Hanies Fuel Terminal, Alaska	CH2M Hill	February-04
145	Final 2003 Annual Monitoring Report, Haines Fuel Terminal	CH2M Hill	February-04
146	Final OM&M Manual Haines Fuel Terminal Alaska	CH2M Hill	February-04
147	Jan/Feb 2004 COELT Deliverables Haines Fuel Terminal	CH2M Hill	February-04
148	Final Tok Fuel Terminal Preliminary Remedial Investigation Report, Tok AK	COE	May-04
149	Draft Long Term Stockpile Plan for HFT Tanani Point Burn Pit Bedrock Investigation	COE-BNCI	June-04
150	Draft Well Installation Work Plan, HFT	CH2M Hill	June-04
151	Draft Site Investigation HFT, Tanani Point Burn Pit Soil Excavation Assessment and Disposal	BNCI	
152	Final Site Investigation HFT Tanani Point Burn Pit Soil Excavation Assessment and Disposal	COE-BNCI	

Haines Pipeline

ER,A ACTIVE SITES

HNS-01
HAINES TERMINAL

SITE DESCRIPTION

Haines Fuel Terminal was constructed in 1954 to provide facilities for tanker dockage, fuel storage, and a pipeline system to deliver fuel to military installations in the vicinity of Fairbanks. Haines Fuel Terminal was an active fuel storage and pumping facility from 1955 until 1971. Fuel storage ceased in 1988.

In 1989, Haines community members, petitioned the EPA and the Alaska Department of Environmental Conservation (ADEC) to conduct an investigation of Haines Fuel Terminal. A PA in May 1990, identified leaking underground storage tanks, leaking transformers, three burn pits used for waste fuels and solvent disposal, and potential past use of dioxin-containing herbicides. The site was listed on the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) in May 1990.

A site investigation initiated in 1992 identified the presence of petroleum contaminants in soil, surface water and groundwater. A second investigation confirmed off-site migration of petroleum contaminants in Jan 1996.

STATUS

RRSE RATING: High

CONTAMINANTS OF CONCERN:
POL, Solvent

MEDIA OF CONCERN:
Groundwater, Surface Water, Soil

COMPLETED IRP PHASE:
PA/SI

CURRENT IRP PHASE:
RI/FS, RA

FUTURE IRP PHASE:
RA(O), LTM

In Oct 1996, a groundwater control system was installed as a treatability study to determine if enhanced bioremediation would slow or stop off-site migration. Results were inconclusive. Soil from one of the burn pits was found to be a major source of off-site surface water contamination and was subsequently excavated and stockpiled for later thermal remediation.

In Oct 1997, a second study was initiated with the installation of a high-vacuum extraction (HVE) system to remove and treat fuel-related compounds from groundwater and subsurface soil in the off-site migrating area. The system was deactivated in Dec 2000, due to inefficiency.

It was determined that the manifold building area, where transport lines converged and which lies over a paleochannel that serves as the principal conduit for groundwater in the area, is the main source of contamination. In Dec 2001, a permeable sparging trench treatability study was implemented to control volatile contaminant migration and meet the goal of preventing potential off-site migration. The permeable sparging trench system was expanded in FY03.

Plume delineation in FY03 included additional well installation and borings. Free product was detected in 6 wells near the paleochannel, over an ~6 acre area. In FY04, limited passive free product removal occurred. Investigations at Tanani burn pit and a former drum yard, 2 other suspected source areas, have been completed. All of the tanks on site were removed in FY03 (non-IRP). The CLOSES (exit strategy) evaluation reduced the sampling in the non-contaminated areas, recommended additional investigation in the manifold building area and continued operation of the permeable sparging trench system.

The site-wide sampling that has been underway since 1995 (11 wells & 5 SW) has shown that the contamination is limited to the area being treated by the paleochannel system. Surface water seeps on Tanani Beach are

PROPOSED PLAN

A limited removal at the Tanani Point burn pit will be completed in summer FY04.

The paleochannel area will undergo additional delineation after demolition of the manifold building foundation. The free product will continue to be addressed (once the building foundation has been removed [non-IRP], the extent of any residual contamination will be more clearly known). The permeable sparging trench system will become a full scale treatment and will continue to operate.

HNS-02
HAINES PIPELINE INVESTIGATION

SITE DESCRIPTION

Haines Pipeline was approximately 626 miles long and ran though Alaska and Canada to provide fuel to interior Alaska. Numerous leaks, spills and breaks have been reported along the pipeline route.

The Army originally had 1,800 acres of land and pipeline right-away. All but 455 acres have been deeded to other owners and are part of the FUDS program. Of the 455 acres, approximately 39 acres are part of this site. The acreage is an aggregate of small parcels that are scattered along the pipeline route.

In FY04, FUDS started a RAB for the Haines Pipeline and USAG-AK may participate once work begins at this site.

STATUS

RRSE RATING: Low

CONTAMINANTS OF CONCERN:

POL

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RI/FS

FUTURE IRP PHASE:

RA

PROPOSED PLAN

Future actions include a limited RI/FS utilizing soil gas analysis and shallow soil and surface water sampling. If contamination is found, it is assumed that it will be isolated and can be easily removed and treated at an off-site incinerator. Due to the relatively small size of this area, it is assumed that limited contamination, if any, will be found.

HNS-03
SEARS CREEK STATION

SITE DESCRIPTION

Sears Creek POL Terminal is located approximately 80 miles northwest of Tok, Alaska. The site is approximately 9.8 acres. The site consisted of one building that housed generators and pumps, two above ground storage tanks, 'pigging' station/transfer pump and burn pit area.

A PA was completed in 1995 by USAPAC AEHA to determine the relative risk at this site. It was determined that there is no immediate threat to human health and the environment, thus a relative risk of 3 was assigned to this site.

STATUS

RRSE RATING: Low

CONTAMINANTS OF CONCERN:
POL, Solvent, Pesticides, PCBs

MEDIA OF CONCERN:
Soil, Groundwaterater

COMPLETED IRP PHASE:
PA/SI

CURRENT IRP PHASE:
RI/FS

FUTURE IRP PHASE:
RA, RA(O), LTM

PROPOSED PLAN

Future actions include a limited RI/FS at the fire burn pit and fuel transfer station. This action is scheduled to begin scoping in FY05. Due to the limited size of this area, it is assumed that limited contamination, if any, will be found.

HNS-04
TOK TERMINAL

SITE DESCRIPTION

The Tok Fuel Terminal is located approximately two miles outside of Tok, Alaska, and was the second largest pumping station on the Haines-Fairbanks pipeline. The site covers approximately 50 acres and had approximately 10 aboveground storage tanks, quarters for personnel working on the site, vehicle maintenance facilities, pipeline maintenance facilities and a power generation plant. The ASTs were removed. The same type of contamination that has been found at the Haines Fuel Terminal is expected to exist at this facility.

This site was listed on the Federal Agency Hazardous Waste Compliance Docket on 10/02/01.

A limited RI was completed in 2003 that indicated two contaminated areas. The report was finalized in FY04.

- The Generator Building area (~250 x 250 ft) has solvent and petroleum in the soil and groundwater.

- The Oil Rack area (~50 x 50 ft) has high levels of petroleum and lead in the soil. Groundwater was not sampled at the Oil Rack Area.

STATUS

RRSE RATING: Low

CONTAMINANTS OF CONCERN:

POL, Lead, Solvents

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RI/FS (funded), RA

FUTURE IRP PHASE:

RA(O), LTM

PROPOSED PLAN

Additional sampling will be completed to delineate the contamination at the above listed facilities. Soil removal may be needed in future years.

Haines Pipeline

ER,A RESPONSE COMPLETE SITES

HNS-05
LAKEVIEW STATION

SITE DESCRIPTION

Lakeview was a pump station for the Haines to Fairbanks pipeline operated by the Department of Defense (DOD). Lakeview POL terminal is located on the south side of the Alaska highway, approximately 62 miles from Tok, Alaska. The site consists of one main building, one warehouse, one 300 bbl above ground storage tank, one 1,400 bbl above ground storage tank, and several pipes and refueling pumps. The facility was taken out of service in 1971.

Thirteen surface samples were taken at the site, and analyzed for volatile organic compounds, metals, base neutral extractable compounds, pesticides and PCBs. Several sites showed up with a variety of volatile organic compounds, as well as total petroleum hydrocarbons, and the pesticide disulfoton.

Future work will be conducted under the FUDS program.

STATUS

RRSE RATING: NE

CONTAMINANTS OF CONCERN:

POL, Solvent, PCBs, Pesticide

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1993

HNS-06
TIMBER STATION

SITE DESCRIPTION

The Timber Station POL terminal is located on the south side of the Alaska highway, approximately 160 miles northwest of Tok, Alaska. The site consists of one building, one 500 bbl above ground storage tank, one 1,400 bbl above ground storage tank, several pipes and refueling pumps and a large concrete pad.

There were 13 samples collected from various portions of the site during the PA. The fire burn pit was not sampled because it could not be located. All samples were taken for volatile organic compounds, aromatic base neutral extractable compounds, pesticides, PCBs and metals. Based upon the samples taken, this site shows no contamination at the surface.

Future work will be conducted under the FUDS program.

STATUS

RRSE RATING: NE

CONTAMINANTS OF CONCERN:

POL, Solvent, Pesticide, PCBs

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1994

HNS-07
TANK 100 & MANIFOLD BUILDING

SITE DESCRIPTION

Tank 100, the largest tank at the Haines Fuel Terminal was constructed in approximately 1962, and covers some portion of the tank farm burn pit with its secondary containment liner. The site was formerly a burn pit. The following contaminants were above action levels: benzene, trimethylbenzenes, toluene, xylenes, ethyl benzene. Groundwater samples from these wells during investigation work conducted in 1993, found soil and groundwater contaminants in the vicinity of Tank 100, but with the highest levels being in the gasoline range organics, diesel range organics, BTEX components and benzene contamination.

These groundwater contaminants have been detected off-site.

In April 1997, efforts began to the existing Tank 100 HVE system was installed. The purpose of the systems expansion is to remove fuel-related compounds from soil and groundwater adjacent to the Manifold Building.

There were 13 samples collected from various portions of the site during the PA. The fire burn pit was not sampled because it could not be located. All samples were taken for volatile organic compounds, aromatic base neutral extractable compounds, pesticides, PCBs and metals. Based upon the samples taken, this site shows no contamination at the surface.

This site has been combined with HNS-01

STATUS

RRSE RATING: High
CONTAMINANTS OF CONCERN:
POL, Solvent, PCBs, Pesticide
MEDIA OF CONCERN:
Soil, Groundwater
COMPLETED IRP PHASE:
PA/SI, RI/FS, RD, RA, RA(O), LTM
CURRENT IRP PHASE:
RC - 1997

HNS-08
MANIFOLD BUILDING

SITE DESCRIPTION

The manifold building was constructed in approximately 1954 and was used to direct fuels from off-loading fuel ships to the appropriate storage tanks and from the storage tanks to the main pump station for the Haines Pipeline. The facility was still active until 1988 when the facility was finally mothballed.

Groundwater from this area is believed to move through the draw near Tank 100, and migrate off-site to Lutak Inlet.

This site has been combined with HNS-01

STATUS

RRSE RATING: High
CONTAMINANTS OF CONCERN:
POL
MEDIA OF CONCERN:
Soil, Groundwater
COMPLETED IRP PHASE:
PA/SI, RI
CURRENT IRP PHASE:
RC - 1998

HNS-09
LUTAK BURN PIT

SITE DESCRIPTION

Lutak Burn Pit was one of three fire burn pits used at the Haines Fuel Terminal for disposal/incineration of waste fuels, sludge, solvents and laboratory chemicals. Soil samples contained diesel range, gasoline range and jet fuels up to 100,000mg/kg. Benzene up to 100 mg/kg was also found. The item of greatest concern was the discovery in 1995, of surface runoff from the site containing 150 mg/kg benzene. Since the site is used by recreational vehicles for overnight parking and camping, these levels of surface water were a cause of concern.

Since the site is geophysically isolated from the groundwater leaving the terminal, excavation of the soils was considered to be the best/most feasible remedial action. Unfortunately, contamination spread directly to bedrock. Excavation had to be terminated due to fear of undermining the local highway. Low levels of residual contamination are still present in the area of the excavation. The decision document for removal of the contaminated soils with ex situ thermal remediation was signed 28 January 1997. Soil was removed and stockpiled within the fenced cantonment of the terminal in October 1997.

This site has been combined with HNS-01.

STATUS

RRSE RATING: Low
CONTAMINANTS OF CONCERN:
POL
MEDIA OF CONCERN:
Soil, Groundwater
COMPLETED IRP PHASE:
PA/SI, RI/FS, RD, RA
CURRENT IRP PHASE:
RC - 1996

HNS-10
DRUM STORAGE AREA

SITE DESCRIPTION

Historical documents and anecdotal information indicate this area near the truck off-loading and loading rack was used for storage of drummed products. The exact nature of the products stored in the area is unknown. However, surface soil samples taken during the 1993 site investigation found perchloroethylene at up-to 77 mg/kg. While this material does not appear to be migrating, the site investigation has recommended excavation for offsite disposal of approximately 10 cy (i.e., 30 – 55 gallon drums) of contaminated soils.

This site has been combined with HNS-01.

STATUS

RRSE RATING: Low
CONTAMINANTS OF CONCERN:
Perchloroethylene
MEDIA OF CONCERN:
Soil
COMPLETED IRP PHASE:
PA/SI, RI
CURRENT IRP PHASE:
RC - 1999

OTHER RESPONSE COMPLETE SITES

The following sites are listed as response complete because they were combined with HNS-01 in 1999.

HNS-11	Tank 101
HNS-12	Tank 102
HNS-13	Tank 103
HNS-14	Tank 104
HNS-15	Tank 105
HNS-16	Tank 106
HNS-17	Tank 107
HNS-18	Tank 108
HNS-19	Tank 109
HNS-20	Tank 110
HNS-21	Tank 111
HNS-22	Tank 112

PAST MILESTONES

Year of IRP Inception	1991

FUTURE MILESTONES

Projected completion date of all RA:	2007
Projected completion date of all IRP	2034

NO FURTHER ACTION

HNS-05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22

Haines Pipeline IRP Schedule

(Based on current funding constraints)

AEDB-R #	TITLE	PHASE	FY05	FY06	FY07	FY08	FY09	FY10+
HNS-01	Haines Terminal	RI/FS						
		RA						
		RA(O)						
		LTM						
HNS-02	Haines Pipeline Investigation	RI/FS						
		RA						
HNS-03	Sears Creek Station	RI/FS						
		RA						
		RA(O)						
		LTM						
HNS-04	Tok Terminal SI	RA						
		RA(O)						
		LTM						

Remediation Activities

RI work conducted during summer 1996 attempted to identify pathways for off-site migration of groundwater contamination. Ground penetrating radar conducted at HNS-01 identified potential disposal pits outside the facility fenceline. Initial RD for HNS-01 indicated that the aboveground storage tanks and their impermeable liners at the site may have to be removed in order to remediate the POL-contaminated soils that are acting as a continuing source of groundwater contamination.

COMPLETED REM/IRA/RA:

- HNS-009, Lutak Burn Pit - Excavation for future thermal remediation of Lutak Fire Burn Pit which was a source of surface water contamination ranging up to150 ug/L, benzene.
- HNS-07, Tank 100 and Manifold Bldg. - Treatability study on using oxygen releasing compounds for enhancing biodegradation of petroleum products in groundwater migrating off-site.
- HNS-14, Tank 104 - Treatability study on using oxygen releasing compounds in slurry form for enhancing biodegradation of petroleum products in groundwater and soils around the ASTs.
- LTM for additional Sentry Wells installed October 1998.
- HNS-07, Tank 100 and Manifold Bldg. - Treatability study on high vacuum extraction has been discontinued (Dec 00) due to continual decrease in product recovery.

CURRENT REM/IRA/RA:

- HNS-01, Haines Terminal – Initial air sparging treatability system installed October 2001 and augmented in 2003.

FUTURE REM/IRA/RA:

- HNS-01, 02, 03, 04

Community Involvement

RESTORATION ADVISORY BOARD (RAB) STATUS

The surrounding community for Haines Fuel Terminal is the town of Haines, Alaska (~ population 2,600). A Restoration Advisory Board was established in 1997. The RAB includes members from the business community, local environmental groups, and local residents. The RAB also includes members of the Klukwan and Chilkoot Tribes, local Native American organizations. Government members include individuals from the Alaska Department of Environmental Conservation.

RAB meetings are held twice a year, generally with minimal attendance. Active members have provided advice on cleanup studies and presented their areas of concern. RAB members have been provided technical presentations to better understand the cleanup processes and technologies in place on Haines Fuel Terminal. The RAB does not address HNS-03-04. No TAPP projects have been identified by the RAB.

Haines Pipeline Installation Action Plan FY2005

Haines Pipeline Installation Action Plan FY2005

Haines Pipeline Installation Action Plan FY2005

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